

Application No.: 10/003,496

Attorney Docket No: 0218us210

Filed: Nov. 1, 2001

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Listing of Claims:

The following listing of claims replaces all prior versions and listings of claims in the application. Additions are indicated by underlining and deletions are indicated by ~~strikethrough~~, except where a strikethrough would not be easily perceived, in which case the deleted text is indicated by double brackets [[]] flanking the text to be deleted.

1. (Amended) A single-chain multimeric polypeptide having G-CSF activity, comprising at least two monomeric units independently selected from (a) hG-CSF with the amino acid sequence shown in ~~as set forth in~~ SEQ ID NO:1 and (b) ~~a variant~~[[s]] of hG-CSF ~~with an amino acid sequence which differs in 1-8 amino acid residues from SEQ ID NO:1 and which comprises at least one amino acid residue modification selected from the group consisting of: introduction of a lysine, cysteine, aspartic acid, glutamic acid or histidine residue, and removal of a lysine, cysteine, aspartic acid, glutamic acid or histidine residue,~~ said monomeric units being linked via a peptide bond or a ~~peptide linker~~ linker peptide, the polypeptide comprising at least one covalently bound polymer molecule selected from the group consisting of a linear polyalkylene oxide and a branched polyalkylene oxide[[s]].
2. (Original) The single-chain multimeric polypeptide of claim 1, wherein the polymer molecule is polyethylene glycol.
3. (Original) The single-chain multimeric polypeptide of claim 2, wherein at least one polyethylene glycol molecule is bound to a lysine residue.
4. (Amended) The single-chain multimeric polypeptide of claim 1, wherein at least one of said monomeric units has the amino acid sequence of hG-CSF ~~(SEQ ID NO:1)~~ as set forth in SEQ ID NO:1.

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5. (Amended) The single-chain multimeric polypeptide of claim 4, comprising two monomeric units, wherein ~~both each~~ of said monomeric units ~~have~~ has the amino acid sequence of hG-CSF ~~(SEQ ID NO:1)~~ as set forth in SEQ ID NO:1.
6. (Amended) The single-chain multimeric polypeptide of claim 1, wherein at least one of said monomeric units is a variant of hG-CSF ~~comprising at least one substitution, addition or deletion compared to SEQ ID NO:1~~ according to (b).
7. (Canceled)
8. (Amended) The single-chain multimeric polypeptide of claim 6, comprising two monomeric units, wherein ~~both each~~ of said monomeric units ~~have at least one amino acid residue modification compared to hG-CSF~~ is a variant of hG-CSF according to (b).
9. (Amended) The single-chain multimeric polypeptide of claim 1, comprising two monomeric units, wherein one of said monomeric units has the amino acid sequence of hG-CSF ~~(SEQ ID NO:1)~~ as set forth in SEQ ID NO:1 and the other monomeric unit is a variant of hG-CSF according to (b).
10. - 21. (Canceled)
22. (Amended) A nucleic acid comprising a nucleotide sequence encoding a ~~the~~ single-chain multimeric polypeptide according to claim 1.
23. (Amended) An expression vector comprising a ~~the~~ nucleic acid ~~nucleotide sequence~~ according to claim 22.
24. (Amended) A recombinant host cell comprising an ~~the~~ expression vector according to claim 23.

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25. (Amended) A method for preparing a single-chain multimeric polypeptide having G-CSF activity, comprising culturing a recombinant host cell ~~according to claim 24 comprising a single nucleotide sequence encoding said polypeptide~~ comprising the expression vector of claim 23 in a suitable culture medium under conditions permitting expression of the ~~nucleotide sequence, and nucleic acid~~, recovering the resulting polypeptide from the cell culture, and subjecting the polypeptide to conjugation with a polymer molecule selected from the group consisting of a linear polyalkylene oxide and a branched polyalkylene oxide.
26. (Amended) The method of claim 25, ~~further comprising subjecting the polypeptide to conjugation in vitro with a non-polypeptide moiety under suitable reaction conditions to result in a polypeptide conjugate wherein the polymer molecule is a polyethylene glycol.~~
27. (Amended) A composition comprising a single-chain multimeric polypeptide according to claim 1 ~~together with~~ and at least one excipient or vehicle.
- 28.- 33. (Canceled)
34. (New) A method for treating a mammal exhibiting leukopenia or neutropenia, comprising administering to said mammal an effective amount of the single-chain multimeric polypeptide of claim 1.